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10/666,157

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Kenneth W. Whitley

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05/14/2007

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EXAMINER

BOWERS, NATHAN ANDREW

ART UNIT

PAPER NUMBER

1744

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/666,157	Applicant(s) WHITLEY, KENNETH W.	
	Examiner Nathan A. Bowers	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 6-9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-9 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 March 2007 has been entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1) Claims 1, 4, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mussi (EP 0614967) in view of Land (US 3630849), Weick (US 5908127) and Kayal (US 5695987).

With respect to claims 1, 4, 8 and 11, Mussi discloses a first roller bottle (Figure 1:24) for cell growth culturing comprising a cap (Figure 1:36). Page 3, line 33 to page 4, line 11 states that the first roller bottle is stacked adjacent to a second roller bottle. The second roller bottle comprises an elongate cylindrical wall having a closed bottom end and an opposing projecting neck portion (Figure 1:32) defining a liquid opening (Figure 1:34). The closed bottom end includes an inwardly directed recessed portion (Figure 1:42) for accommodating the cap of the first roller bottle. The recessed portion includes a side wall extending from the planar surface away from the neck portion end. Mussi, however, does not disclose that the side wall is configured so that a gap is defined between the side wall and an accommodated cap, or that an air space exists between the top of the cap of the first bottle and the recessed portion of the second bottle.

Land discloses a cell culture container comprising a closed top end and a closed bottom end. The bottom end includes an inwardly directed recessed portion for accommodating the top portion of an adjacent stacked similar container. The recessed portion further includes a planar

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surface and sidewalls. A plurality of ribs is provided on the container for defining a space between the top end of the similar container and the planar surface of the original container.

This is disclosed in Figures 1 and 2, and in column 2, lines 29-42.

Mussi and Land are analogous art because they are from the same field of endeavor regarding cell culture devices.

At the time of the invention, it would have been obvious to utilize the ribs set forth by Land in the apparatus of Mussi in order to define an air space between the first and second bottles when they are in a stacked arrangement. In column 2, lines 39-42, Land indicates that ribs capable of facilitating air flow between adjacent stacked containers is beneficial because increased circulation promotes the maintenance of a uniform temperature during the culturing process.

The combination of Mussi and Land, however, still differs from Applicant's claimed invention because Land teaches that the ribs are provided on the cap of the cell culture container as opposed to on the closed bottom end.

Weick discloses a bottle comprising a cylindrical wall having a closed bottom end and an opposed projecting neck portion defining a liquid opening. Weick describes in column 6, lines 26-46 that the bottom end includes a recessed portion including a planar surface and side walls extending from the planar surface. A plurality of ribs (Figure 2:52) extend along the side walls for defining a space between the cap of a first bottle and the planar surface of a second bottle when the bottles are stacked.

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Mussi and Weick are analogous art because they are from the same field of endeavor regarding bottle construction.

At the time of the invention, it would have been obvious to place ribs along the side walls of the recessed portion of the bottle disclosed by Mussi when altering the device of Mussi according to the teachings of Land. As evidenced by Weick, the construction of ribs along the base of a bottle to facilitate stacking is known in the art. The decision of whether to place ribs along the cap of a first bottle or along the side walls of a second bottle is simply a design choice, and does not affect the functionality of the resulting apparatus. The relocation of ribs from the cap portion to the recessed portion merely represents an obvious rearrangement of parts that does not result in a patentably distinct apparatus. See MPEP 2144.04.

The combination of Mussi, Land and Weick, however, still differs from Applicant's claimed invention because Land does not disclose that the cap of the first roller bottle has an open orifice formed therethrough.

Kayal discloses a cell culturing roller bottle (Figure 1:12) comprising a liquid opening that is covered by a screw cap. The cap includes a central orifice covered by a gas permeable membrane (Figure 3:56), and allows gases to enter into and out of the liquid opening. This is disclosed in column 1, lines 54-67.

Mussi and Kayal are analogous art because they are from the same field of endeavor regarding roller bottle cell culture devices.

At the time of the invention, it would have been obvious to alter the invention disclosed by Mussi in order to allow the space between the two coupled containers to permit the entry of

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gases into the liquid opening of the adjacent, bottom container. The addition of gases to a culturing vessel is often essential because many microorganisms require certain gases such as oxygen to grow. Kayal discloses in column 4, lines 6-17 that bottle caps comprising gas permeable membranes are an effective way to deliver critical gases to the culturing cells while preventing the passage of undesirable microorganisms and contaminants.

With respect to claim 9, Mussi, Land, Weick and Kayal disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. In addition, Mussi teaches that the bottle neck includes integral external screw threads for receiving an internally screw threaded cap. The cap has a top surface and an annular outer skirt extending from the top surface to a bottom stop ledge. This is apparent from the Figures.

2) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mussi (EP 0614967) in view of Land (US 3630849), Weick (US 5908127) and Kayal (US 5695987) as applied to claim 1, and further in view of Pedmo (US 6585123).

Mussi, Land, Weick and Kayal disclose the roller bottle assembly set forth in claim 1 as set forth in the 35 U.S.C. 103 rejections above. In addition, Weick discloses that the plurality of ribs are equally spaced apart and radiate from a point proximal to the longitudinal axis of the container. This is clear from Figures 2-4 and 8.

Pedmo discloses a bottle comprising an inwardly directed recessed portion at the bottom of the bottle. Ribs (Figure 5:34) are provided, which radiate from a point proximal to the

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longitudinal axis of the container toward the sidewall of the recessed portion. A plurality of equally spaced apart ribs is provided. This is disclosed in column 2, lines 46-58.

Mussi and Pedmo are analogous art because they are from the same field of endeavor regarding the use of capped bottles to contain a fluid.

At the time of the invention, it would have been obvious to utilize a plurality of equally spaced apart, outwardly radiating ribs in the roller bottle assembly disclosed by Mussi. In column 1, lines 11-20, Pedmo discloses that ribs constructed in this manner are beneficial because they improve the strength properties of the bottles, thus enabling the bottles to withstand damage when physically struck. Pedmo additionally states that a plurality of ribs that radiate from the center of the bottle help the bottles withstand deformation during heat applications. Since incubation is sometimes completed under high temperatures, the utilization of ribs of this nature would be beneficial in the roller bottle assembly disclosed by Mussi.

### *Response to Arguments*

Applicant's arguments filed 12 March 2007, with respect to the 35 U.S.C. 103 rejections involving the combination of Witt and Land have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of the combination of Mussi, Land, Weick and Kayal.

The Mussi reference discloses a standard roller bottle that is much simpler than the roller bottle of Witt in design, and therefore does not suffer from the same complications during stacking indicated by Applicant.



The Weick reference is used as evidence to show that it would have been obvious to place ribs along the side walls of the recessed portion of the bottle disclosed by Mussi when altering the device of Mussi according to the teachings of Land. The use of ribs along the recessed bottom portion of a bottle is considered to be well known in the bottle construction art. Weick clearly supports this contention.

The Kayal reference addresses further deficiencies in the Mussi reference by disclosing that it is known to utilize roller bottles with caps comprising an open orifice. Kayal teaches that this is an effective way to deliver critical gases to the cells during growth.

### ***Conclusion***

This is a non-final action.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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